

### **Amendments to the Claims:**

This listing of claims will replace all prior versions and listings, of claims in the application:

### **Listing of Claims:**

1. (Amended Second) A thermoelectric module comprised of:
  - A) a plurality of n-legs comprised of at least 100 very thin alternating layers of silicon and silicon carbide said alternating layers defining n-leg interfaces where said alternating layers face each other; and
  - B) a plurality of p-legs,;  
said p-legs and said n-legs being electrically connected to produce said thermoelectric module, with directions of heat flow and electric current flow in said n-legs being parallel to said n-leg interfaces.
2. (Amended Second) A thermoelectric module as in Claim 1 wherein said p-legs comprise at least 100 very thin alternating layers of boron carbide, said alternating boron carbide layers defining p-leg interfaces where said alternating layers of boron carbide face each other, wherein heat flow and electric current flow in said p-legs is parallel to said p-leg interfaces.
3. (Original) A thermoelectric module as in Claim 2 wherein said very thin alternating layers of boron carbide comprise two different stoichiometric forms of boron carbide.
4. (Original) A thermoelectric module as in Claim 3 wherein said very thin alternating layers of boron carbide are alternating layers of  $B_4C$  and  $B_9C$ .
5. (Original) A thermoelectric module as in Claim 2, wherein said plurality of n-legs is comprised of a plurality of very thin alternating layers of silicon and silicon-carbide and said very thin alternating layers of boron carbide are alternating layers of  $B_4C$  and  $B_9C$ .
6. (Original) A thermoelectric module as in Claim 1 wherein said alternating layers are deposited on a substrate.

7. (Original) A thermoelectric module as in Claim 6 wherein said substrate is silicon.
8. (Original) A thermoelectric module as in Claim 6 wherein said substrate is silicon film.
9. (Original) A thermoelectric module as in Claim 6 wherein said substrate is a polyimide substrate.
10. (Cancelled)
11. (Cancelled)
12. (Original) A thermoelectric element as in Claim 1, wherein said very thin alternating layers are each less than 100nm thick.
13. (Original) A thermoelectric element as in Claim 1 wherein said very thin alternating layers are each about 10 nm thick.
14. (Original) A thermoelectric element as in Claim 9 wherein said plurality of very thin alternating layers is at least 1250 layers.